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# AMERICAN GAS ENGINEERING JOURNAL

FORMERLY

AMERICAN GAS LIGHT JOURNAL

VOL. CXIII., No. 13
WHOLE No. 3264

NEW YORK, SATURDAY, SEPTEMBER 25, 1920

Subscription $3 per year
$4 Canada $5 Foreign

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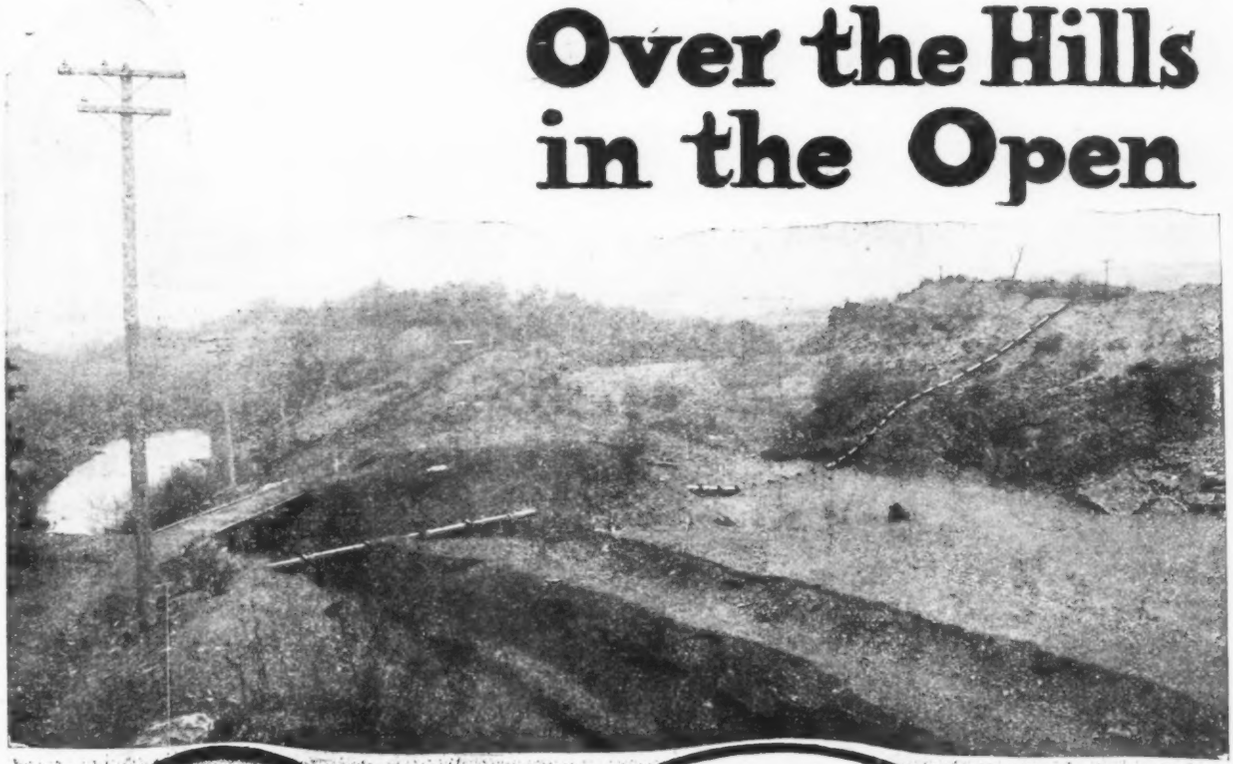

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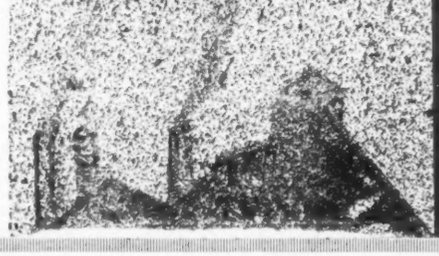

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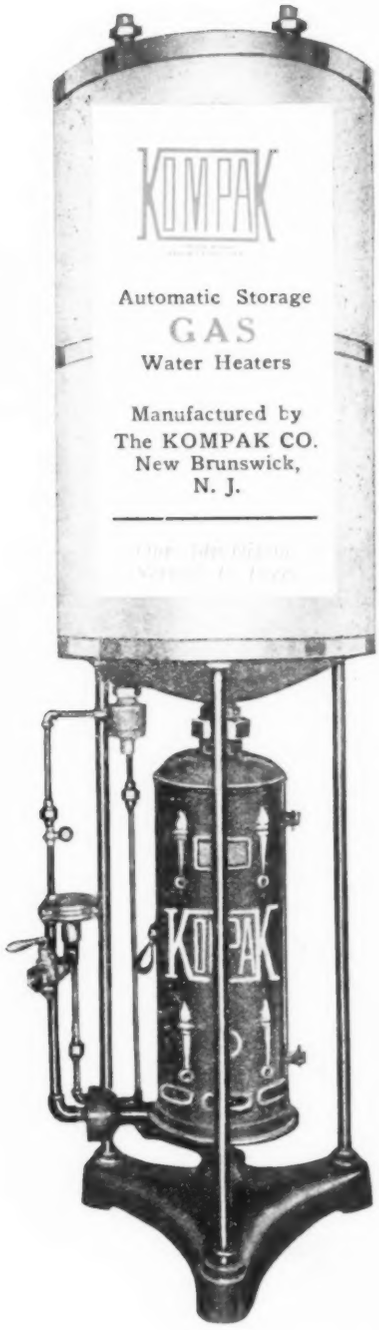
# Better Order Now





AMERICAN GAS ENGINEERING JOURNAL. Sept. 25, 1920. Vol. CXIII, No. 13. Published Weekly by American Gas Light Journal, Inc., New York, N. Y. Subscription Price $3 per Year; $4 Canada; $5 Foreign.
Entered as second-class matter January 9, 1917, at the post-office at New York, N. Y., under the Act of March 3, 1879.

American
Gas Engineering Journal

FORMERLY THE AMERICAN GAS LIGHT JOURNAL

Vol. CXIII, No. 13 NEW YORK, SEPTEMBER 25, 1920 Whole No. 3264

# Unwritten Law that Utilities Labor Will Not Strike Not Sufficient Assurance that Public's Vital Needs Will Not Be Jeopardized

## Labor Has Found a New Standard of Living and Insists Upon Its Right to Maintain that Standard—Appeals as to Its Obligation to Others Falls on Unsympathetic Ears

By WALTER A. FAIRSERVIS

Investigation of the recent activities of labor, particularly along the line of strikes in the public utility field, has revealed a condition so startling and of such great ignorance on the part of utility operators of the desires and aims of labor as to be almost beyond belief. Yet to-day there is no more important question before the public and its solution will play no small part in clearing up the rate difficulties that are confronting practically every gas company in the United States. Conditions regarding the supply of coal and oil may present problems that are purely local, but the demands and needs of labor seem to be universal. This is gathered from interviews had with men in all ranks of life and with leaders of both labor and capital. It is notable that there is one point on which all agree: that no solution of the labor problem has yet been presented.

Merely by way of establishing a common starting point let us inquire into the reasons for the unrest that is not only national but is world-wide. Perhaps these can be set down in three points, all of them equally important.

1. The cost of living.
2. The ill-advised ambitions of some labor leaders.
3. The radical foreign element which seems to have such a grip on American industry.

Taking them in turn it is the purpose of the writer to deal with each question in a more or less superficial manner; a thorough discussion being almost prohibited because of the channels that are opened. The discussion therefore will be limited to the gas industry and will be a report of facts, set down as simply as possible, gathered from various sources.

### Unwritten Law That Labor Will Not Strike

Examination into the history of the gas industry seems to show that there was an unwritten law that labor would not strike but that instead questions would be confined to settlement between individuals and management. This naturally discouraged any effort that might be made to form a union in the field of gas company workers, for unless all workers had a common grievance there would not be much use in attempting anything like a general movement. But this spirit has died out, according to the best information obtainable and in place there has grown up a new element which believes that the aims and ends of the individuals working in the gas field are of greater importance than the public that is served.

Said one prominent man recently, who requested that his name be not used: "There is no doubt in my mind but that the day of dealing with a problem between management and employees has passed, but that, on the contrary, labor generally will insist on being represented in any conference that disposes of questions that are of vital importance to it.

"To my mind the unrest that we find in the gas field and which most plant managers try to conceal is due to the several facts that you have pointed out to me (the same as indicated at the beginning of this article). Take this cost of living element as an example. The rise in prices has been blamed on the rise in wages and vice versa. Maybe this is so, but it seems to me that the oft-quoted law of 'supply and demand' enters into the question in a mighty important way. When prices first began to jump out of reach shortly after the world war started and America entered into an era of prosperity that I believe has never been equaled in the history of our country, we were told that this was because the European countries were demanding more and more of our products and they were willing to pay bonuses to get preference. Every manufacturer at once wanted to increase his output and he attempted and most gen-

erally succeeded in stealing men from other lines of industry in order to accomplish his ends.

"It wasn't very long before labor got on to this, saw the profits that were coming to the manufacturer and demanded its share. This was only a natural and logical development. But as always in a circle of this kind there has to be somebody who is pinched and in this case it has been utility companies as a whole and more particularly gas companies who have been squeezed dry.

"The laborer in our field, seeing his fellow worker in other lines of industry getting more and more of the good things of life and feeling the pinch of increased prices began to demand more and more for his work and when this has not been forthcoming he has taken recourse to the only means of expression that he knows will have any effect on gas-plant managements—he has struck. But not for long, for gas-company executives have hesitated to lay their troubles on the altar of public opinion and so have increased wages to the dangerous point and now are suffering the consequences.

"But there is no doubt in my mind that the troubles to-day are caused to a great extent by the cost of living. The Government has stepped in and announced that it would force down prices and in a few isolated cases perhaps this has been done, but I notice in my own case that the value of my dollar has not increased to an alarming degree.

### Labor Has Found a New Standard of Living

Now if this is so with me I figure it has been just as true in the case of labor, with this added point: Labor has found a new standard of living and it insists that it be allowed to maintain that standard. In order to do this it must have more and more money. So labor demands that capital supply this money by paying more and more for its work. Failure to meet these demands means only one thing, a strike or a threat of a strike.

So that we wouldn't be prejudiced or one sided in preparing our facts, we went to a laborer. He hadn't much more than the average intelligence, but when we asked him why he threatened to strike he summed up in these few words: "It costs me more to live. I've got to get more. So we ask for it and then we demand it. If we don't get it we strike."

Not a few of the laborers the writer talked with expressed themselves bitterly against those having Governmental power and which they believed should be used to force down prices. With them it had gone beyond the stage of an academic question but had resolved into the concrete fact that we have a Government which we protect with our lives if necessary and accordingly it was for the Government to protect the working man by forcing down prices. That any action of theirs might and probably would add to the cost of living did not enter into it. There was only the one side to be seen.

From practically every source that could be reached was this same reply forthcoming.

Taking up the second point did not require any interviews, but simply a steady observation of what was taking place. It was found that a great deal of agitation was spread among the labor element by those who were seeking to further their own ends. Leaders who had gained the confidence of large bodies of men were abusing the power intrusted to them in order that they might gain some coveted power. If the men were benefited, purely incidentally, it might be pointed out, so much the better, but if they didn't get what they were after, a few smooth words would serve to bring about peace and quiet, provided always the leaders were able to win their own points.

### Drifting Shows Lack of Confidence in Management

Now observation and investigation has shown that plant managements are to a large extent responsible for this condition. They have allowed their men to shift for themselves; they have neglected their trusts in caring for those who have entrusted their futures to them. I blame executive managements entirely for this development, for a great deal of the unrest for the drifting about from place to place is due to the fact that men have a distrust of those they work for. This phase of the question has been too long overlooked, for men who work for wages and salaries to-day have been led to devote their efforts to making rich and powerful managements only in the end to be condemned and cast aside. It is this possibility that has given unscrupulous leaders their holds and they are shrewd enough to magnify wrongs and alleged wrongs until labor has believed itself exploited for the gain of capital. This may not be true of the gas field, and yet there are many in our industry who are firmly convinced of the truth of these statements. There is an evil that must be eradicated.

However these essentially dishonest men have gained a stronghold and daily are becoming more and more powerful. It will require radical co-ordinated action on the part of the heads of our industry to remove them from their places of power and in their stead substitute those whose aims are the betterment of all. This, it seems to the writer to be a question of education of labor.

The third point that enters into the industrial unrest, that of the radical foreign element, is often poohpoohed as being "newspaper talk" or plain "nonsense." No greater mistake could be made than that for this feature of American life is becoming more and more strengthened each day. It is insidious propaganda that is being carried on and is not confined entirely to the I. W. W. and similar organizations. Rather it has become the concrete expression of individual dissatisfaction.

The start seems to be made from a little learning which seems to be a lot and which is misapplied. The installation of radical ideas by the foreign element into the minds of Americans takes just a little longer than it does in the minds of the oppressed who have fled from their native countries to escape persecution, but once it has taken root it is extremely hard to remove.

Now the way to overcome this element is simple and to it applies the old principle of hit the other fellow first. It is just to take the foreigner when he lands on our shores and in place of confining his education to our manufacturing methods is to extend that learning to include a sense of his part in this country. It will do the trick as it has done in so many cases.

But the question of settling the unrest of labor is a big one and one that requires much time and thought. It is the aim of the writer to present in a series of articles the views and actions of men who can and will help in the settlement of this momentous problem for it is receiving the thought of some of the greatest brains of our country and their views together with their actions may be of some help.

# Lack of Easily Accessible Information on Financial Standing a Handicap to Gas Industry Financing

## If Possession of a Million Dollars in Equipment Impressed the Investor as Sufficient Guarantee of the Security of His Investment Problem Would Be Simple, but the Average Citizen Has Learned No Equipment Is of Value Unless It May Be Profitably Used

By L. W. ALWYN-SCHMIDT

May it be conceded for the purpose of argument that the gas industry in its to-day's organization and with present days' prospects offers to the investor a sufficient attractive object for placing its savings, which all unfortunately must be doubted, there is still an answer required of the question, What is the capital investment to which the industry is entitled in its present form?

If gas men intend to go to the investor and place before him their investment possibilities they must not only have a plan for the future development of the properities but they will also have to show to him what security the industry offers.

There are two kinds of security the investor seeks, one is that embodied in the good will of the enterprise, the material value of the plant, and the financial situation of the firm. The other consists in the confidence which the investor places in the integrity and ability of the men in whose hands he places his capital. What security of the first kind especially is held by the investor in gas industry enterprises?

During the year 1914 the gas industry had an invested capital amounting to $1,252,000,000 with products valued at $220,000,000. Pending the publication of the census of the present year nothing is known of the fate of the gas industry since the year 1914.

We do not know whether it has prospered. We are in the dark whether it has gained in sales and whether there are more gas works in existence to-day than six years ago.

But we know that the number of gas works had declined in the former census period, which is not exactly a recommendation to the investor. The fact is that the general system of reporting gas finances and making the results available to the general public and the investor is in a hopeless muddle and requires seriously a complete reorganization. If we want to attract the conservative investor and make his savings available for the purpose of expanding the gas industry we must make him acquainted with our financial affairs.

It is easy to-day to study the financial conditions of the railroads and it is comparatively easy to learn the most important facts referring to the operation of the electrical central stations. But it is practically impossible to gain any real live information on the financial standing of the gas industry.

Whatever comes to the investor on this subject mostly reaches him by way of the Public Service Commission inquiries in the various States where such bodies are in existence. As the hearings before these bodies are consisting in ninety-nine out of a hundred cases in rate inquiries and complaints the angle of observation is not the most suitable.

The impression gained from the reading of these hearings, in fact, brings to life a picture of decay, of frequent inability in management, and decidedly in nearly every case a hard-luck story to be made the basis of a rate increase.

The press, which as a rule takes the popular side in such a contest, has nothing else to say but to raise the cry of incompetence, and the investor prefers in consequence rather to leave the gas industry alone.

Of course it must be held against all this that the man who desires to make himself acquainted with the business side of the gas industry and its financial position can very well do so by studying the records of the Public Service Commission reports, the filed annual reports of the various companies and other information that is made available in regular intervals. But the investor has no inclination to go to all that trouble. He can get all information he wants upon the standing of other industrial branches, and there is no reason, therefore, for him to dig up records, with difficulty only accessible and not always very plain to the untrained reader.

So he rather invests his money where he knows his way about and leaves the gas industry to a few trained investors. It follows that to bring this investor to the gas industry it is necessary not only to make the investment attractive but to falicitate also the means of information, regarding the financial situation of the gas industry.

### Recognized Bases of Capitalization

A well-kown authority on public utility finance writing on the subject of railroads mentions five possible bases for the capitalization of such enterprises:

Rate-making value.
Original investment.
Actual Cost.
Market Value.
Earning capacity.

Only the four last enter the scope of this present inquiry.

The original investment in the case of the gas industry is the capital spent upon the construction of the plant, the acquisition and building up of the present good will, in fact the first-share capital as recorded in the charter of the enterprise. This original-share capital, however, can hardly be representative of the investing value of any enterprise after it has been in operation for a number of years. Experience has shown that its value as represented by an actual sale of the individual share is subject to permanent fluctuations and that it may in-

crease or decline just as the case will be. The enterprise, the shares of which are rising or declining in value in this manner, does not feel either occurrence as an advantage or disadvantage, and the transaction takes place entirely between the owner of the shares and the desiring purchaser. Theoretically at least the public utility is not supposed to take any profits on the sale of its shares with the exception possible in the re-purchase of debentures which it might, under certain circumstances, acquire at a lower value. If the gas industry enters, therefore, to-day competition for the savings of the nation to invest them in the expected development of gas enterprise or to employ these savings for the purpose of such a development it can point to its original investment only for the purpose of showing the enormous size of the industry. But the investor will ask with right: Has the capital value of this industry shrunk or has it extended? Has the investment proved a good one or an unsatisfactory one? As said already the stock exchanges do not give much attention to gas stock and the list of quotations that may be obtained is comparatively small. Comparing, however, the year 1917 with 1919 a considerable shrinkage in values can be noticed all through the best-known stocks, both for the ordinary shares and the bonded investment.

### More Sellers than Buyers for Gas Stock

It is not much good to inquire here into the causes of this shrinkage or to try to place the fault at somebody's door. But the fact itself is evident that there have been more sellers of gas investments than buyers in the open market and that in consequence the investing public has lost money. On the basis of the original investment, as represented by the value of that investment when sold in the open market, it seems that the gas industry has not much to show to the investor. But such a shrinkage in valuation can be caused by many other reasons as those commonly attributed to it, as inefficient management, depreciation in value, etc. General dissatisfaction with the financial returns, inability of paying higher investment rates, and similar reasons, may drive the investor from the industry, create a surplus of sellers over takers and bring the price of the investment down, as represented in stock-exchange values. To base, therefore, the case of the gas industry before the investor upon the showing of the market quotations of some of the leading gas investments is not entirely fair to the gas industry, how much of an argument ever it may be with the investor itself.

Whoever has to do with the investment market knows that the stock-exchange quotations rarely represent the real value of the share. It is rather an opinion of seller and buyer as to what it should be.

By far a more just estimate of the value of any industrial enterprise is obtained by basing this upon the actual cost. The actual cost of any industrial enterprise need not be its actual share capital; in fact, the share capital represents such actual cost only in very few cases. Companies acquire industrial properties often from the original owners. The price of the enterprise in such a case is based upon a mutual agreement between the seller and the buyer and the price may be lower or higher than the actual cost. In the instance of the gas industry such transactions have been made very frequently. Companies have been bought up by others and the introduction of holding companies into gas financing has rather tended to increase it. The actual cost as a basis of capitalization probably would fall considerably below the present-day capitalization, provided purchase value is to be understood as actual value. But there are other reasons which make it undesirable to place the appeal to the investor on behalf of the gas industry upon actual cost. This is the great change that has taken place in the course of time in the cost of equipment and the general cost of building up a business. No reader of the American Gas Engineering Journal, and no gas man for that, can deny the fact that gas equipment is costing more to-day than during any time of the history of the gas industry. Any group of investors able to secure to-day the whole equipment of the gas industry at the rates applying during the year 1914, for instance, could sell out the next day at a 50 per cent profit at the least without turning a finger to improve the conditions of the industry.

### Market Value and the Investor

This brings up for consideration the problem of market value. It will be understood that any real security the gas industry can give to the investor can apply to bonded security only at the present moment and that the profits of such an investment naturally must be limited to the usual earnings of invested money secured by a mortgage or a similar instrument. It seems that the chances of obtaining money on the strength of its actual market value are rather good. To explain this matter properly it will be best to take the case of any medium-sized gas plant, having started with an initial investment of say $200,000 of which $100,000 may have been bonds, the rest being ordinary earning shares. It must be supposed that this company has been managed well, has increased regularly and has especially spent its original investment carefully. The chances are that the original share capital was used to acquire the site of the plant and the plant itself. This money spent, it became necessary to obtain the required operating capital which was given in the form of a mortgage upon the improved property, plant and all. The company under such circumstances probably has had to pay 5 per cent on the bonded capital which may have led in the course of years to a slight decrease in the value of the bonds owing to the somewhat low interest rate considering present-day conditions. As the business grew the company has felt the necessity of extending its distributing equipment. It will have done so most likely, or should have done so, by setting aside a certain amount of the earnings every year to be used for replacing the equipment and for extending it. In this manner the equipment has grown from year to year and has been paid, as is to be hoped at least, by the annual earnings. The security of the bondholders, therefore, has improved and the shares should be rather higher in value than lower. The next move of the company now will be to increase its bonded indebtedness for the purpose of preserving its share capital and increasing the equipment of the enterprise if this should be required. The security given to the bondholder will be the added increase in the equipment plus, and this is the important factor, the likely increase in the value of the whole equipment caused by the general increase in equipment values. But it is extremely difficult just now to establish exactly what is the value of this equipment. In the natural course of any business the equipment decreases in value by use. Only, therefore, the company has followed a safe course in the matter of a replacement fund, can there be real security to the bondholder, both for the first and the second bond.

(*Continued on page* 243.)

# Advocates Regenerative Coke Oven in Localities Where Its Use Is Practical as Most Efficient Means of Gas Manufacture

## Harold E. Wright Deals with the Subject from the British Standpoint—By-product Gas Not a Waste Product

If the true economy of our fuel resources is the main consideration, then the regenerative type metallurgical coke oven stands first as a means for producing town gas with the least waste of the original fuel, declared Harold E. Wright at the July Conference of the British Society of Chemical Industry at Newcastle. In round numbers, the relative efficiency of the various methods expressed in percentage heat units of original fuel remaining available in the final product is: (1) Regenerative coke oven, 90 per cent; (2) average gas-works plant, 85 per cent; (3) average gas plant afterwards converting all surplus coke to water gas, 55 per cent; (4) water-gas plant, 49 per cent. The steaming of retorts and the making of water gas are directly opposed to the conservation of fuel. This procedure is also only made financially practicable if town gas is sold at prices very much exceeding its true fuel value. The cost of distribution and general charges which can be reduced *pro rata* by increased sales is one of the chief items in a gas-works' cost account.

The true reason that gas is not more largely used by the public for heating and cooking (to replace coal and coke) is because the latter means are less costly; and if the economic policy of gas manufacturers were directed to providing gas at a cost nearer its heating value, they would, by thus encouraging consumption, reduce one of their principal costs. This is a strong argument in favor of the use of the regenerative coke oven for manufacturing gas for town supply, where it is possible to adopt it, because in a proper economic situation it can supply gas for town use at a price very little in excess of the cost of distribution and general charges. On the other hand, it is unfortunate that it may only be economically sound to adopt this method at a limited number of places, for reasons stated later. In the regenerative coke oven, the surplus heat from the combustion of part of the gas to carbonize the coal is retained by reversible regenerators; and this, being carried back to the oven-walls by the air supplied for combustion, releases all surplus heat as surplus gas. The actual gas realized varies with the quality of coal used. In the average case, the surplus would be 55 per cent or about 6 000 cu. ft. per ton of coal. By the proper construction of ovens and regenerators to enable producer gas to replace the gas used in heating the ovens, all the coke-oven gas could be obtained as surplus; but there is no saving of thermal units in this procedure—rather the reverse. Therefore, unless the gas so liberated can be sold at a higher price than the cost of the producer gas required to liberate it, this proposition is economically unsound, and from the point of view of fuel conservation it is totally unsound.

### In Quality Compares with Existing Supplies

Where surplus coke-oven gas, the quality of which can be readily determined, is available at adjacent coke-oven plants under separate control, its use for supplementing or replacing existing gas supply is a mere matter of ascertainment and bargaining. Public authorities so placed can most probably secure a supply of gas at a lower price than their existing plant can manufacture it. This, however, is only likely to be the case in isolated instances. In general, coke-oven plant will require to be installed and existing gas manufacturing plant replaced.

Of course, this cannot be applied to every case, because many points need very careful consideration before the change is made. A few such points may be outlined. Successful coke-oven undertakings derive their revenue from the sale of metallurgical coke; and only in areas where such fuel can be sold readily can they succeed. There must be a ready demand, as continuous operation is necessary to the success of coke ovens. In my opinion, the coke oven cannot be successfully operated in order to produce inferior coke.

The coal for coke ovens must also be suited to the product required. The sale of metallurgical coke readily becomes more difficult as the ash in it exceeds 10 per cent and the sulphur 1 per cent. On this account, many good gas coals are not suitable for coke-oven use. With this limitation on the coal supply, the regenerative oven calls for twice the amount of coal to produce the same gas, which in mvany instances will present great difficulty to-day. Each separate case thus opens up difficult phases demanding the highest commercial and technical judgment to be applied to the study of the varying factors likely to operate for and against the proposal. The substitution is probably only worth considering where much extension or renewal of manufacturing plant is contemplated, and then only when the regular supply required is fairly large. Thus it is to be feared that all the chief influences will in general operate collectively against the introduction of the thermally more efficient coke-oven method of gas supply. There will be plants favorably placed; and the following matters should enter into their consideration.

### The Main Economic Difference

The main economic difference between gas plant and coke oven is that in the former the handling of material and charging and drawing retorts, etc., is done piecemeal, by a much more complicated method, and at double the cost of the simple and large operations in coke-oven practice. The coke oven derives its principal revenue from the sale of coke; while at a gas works the sale

of coke seems to be rather neglected, the principal revenue being made from the sale of gas.

Changes in costs and prices to-day are so kaleidoscopic that it appears preferable to illustrate this by figures drawn before the war, than to attempt any present-day estimate. The following figures, therefore, represent the operation of a coke oven from the collieries is equal in both cases. In both cases the cost of the coal used is represented as 100, and the other figures are given comparatively, assuming two tons of coal in coke ovens as required to yield the same gas as one ton in gas practice, or (say) 12,000 cu. ft. per ton and per two tons, respectively.

CARBONIZING COST

| | Gas Plant | | Coke-Oven Plant | |
|---|---|---|---|---|
| Cost of coal | 100 | | 200 | |
| Manufacturing cost | 26 | | 24 | |
| Interest, redemption, etc. | 10 | | 24 | |
| | | 136 | | 248 |
| Profit on sale of coke and breeze | 45 | | 200 | |
| Profit on sale of tar and ammonia | 24 | | 48 | |
| | | 69 | | 248 |
| Net cost | | 67 | | Nil |
| Purification, distribution, and general cost— | | | | |
| Purification and general charges | 65 | | | |
| Interest, redemption, etc., on general plant | 36 | | | |
| | | 101 | | |
| *Plus* loss on carbonization as above | | 67 | | |
| | | 168 | | |
| *Less*: | | | | |
| Sale of gas | 162 | | | |
| Income from other sources | 6 | | | |
| | | 168 | | |

It is obvious in this case that the coke-oven plant could pay all gas-works costs on distribution, etc., *plus* 10 per cent for interest, redemption, etc., on gas plant laid out of use, and sell its gas at 105 instead of 162 without actual loss.

The chief point to note in these figures is the great difference in value received for coke which makes the above reduction in price of gas possible. The consumption and distribution cost on gas in the gas works appears to be handicapped in competition with their own coke, because roughly 8 B.t.u. can be bought as coke at the same price as 1 B.t.u. in the gas.

We have now to deal with the quality of coke-oven gas and the question whether it can be wholly used for town supply. Average coke-oven gas, from which benzol and its homologues have not been removed, only differs from coal gas resulting from the destructive distillation of coal in a plain retort in that it generally contains about 5 per cent by volume more nitrogen. If the benzol is extracted, the illuminating value is low; but when this is not done, average coke-oven gas can be taken as generally equal to the gas supplied in any town to-day, because the latter is a mixture of coal gas with water gas more or less carburetted. Further, it is possible to control and improve the quality of the portion of coke-oven gas taken for town supply, if proper arrangements are made. Without going into close detail, in coking Durham coal it is found that illuminants rapidly diminish after the first half of the coking period. Methane diminishes—being replaced by hydrogen after two-thirds of the coking period. It is only in the final stages that nitrogen increases rapidly.

Probably the first offer to supply coke-oven gas on a large scale for town supply in England was made by Sir B. Samuelson & Co., Ltd., in 1903. They offered to supply gas to the Middlesbrough authorities to the extent of 800,000 cu. ft. per day at 7d. per 1,000 cu. ft. The offer was not accepted; and as the official gas costs went on showing well over 8d., and up to over 9d. for some years, the conclusion was that if may have been rejected on the score of quality. Therefore, in 1912, when the company was considering the replacement of some old ovens, the question was reopened, and the suggestion made to overcome any objections on account of quality by setting apart the gas from the early coking period for town use. To prove the effect of this on the quality of the gas, the following experiments were carried out on an existing set of ovens. As it was decided to leave the benzol, etc., in the gas supplied to the town, the extraction of benzol was discontinued by stopping the flow of oil on the benzol recovery scrubbers. The gases from the ovens of lengthy coking period were shut off from the main and blown away into the air during the time of the test:

| | Candle Power | B.T.U. Gross | B.T.U. Net |
|---|---|---|---|
| Average gas before test | 8.8 | 541 | 498 |
| Gas from ovens under 21 hours coking | 10.9 | 579 | 535 |
| Gas from ovens under 18 hours coking | 12.7 | 612 | 564 |
| Gas from ovens under 15 hours coking | 14.1 | 647 | 598 |
| Gas from ovens under 15 hours coking | 15.0 | 669 | 619 |
| Average gas after test | 11.1 | 572 | 524 |

These experiments proved conclusively that by the provision of separate mains, so as to isolate the gas from the early and later coking periods, the quality of the gas supplied for town use could be controlled. The author advises that this provision should be made if regularity of quality, and especially illuminating value, are in future to be considered of importance in town supply, because if the provision is not made there may be fairly large variations at times. Coke ovens are exposed to atmospheric influence; and when a gale blows directly on the oven doors, it is impossible to prevent penetration of air, leading to the combustion of gas inside the oven, which destroys illuminants and increases the nitrogen content. The uplift caused by the column of hot material in the oven induces a suction upon the lower part of the oven, even if some considerable pressure exists in the gas space on the oven top.

IN ACTUAL OPERATION

Under the conditions of this separation of the gases, the suitability of coke-oven gas for town supply has been proved by the arrangement which was carried through between Sir B. Samuelson & Co. and the Middlesbrough authorities. Since October, 1914, practically the whole

(*Continued on page* 244.)

# Looking Ahead to Sell Gas Appliances

## Creating New Customers on a Stable Basis—How Detroit Gas Company "Foresaw" a Condition, Rendered an Important Service and Profited Thereby

By C. E. SCHAFFNER

When a quite prominent advertising man suggested not long ago that the manufacturers of electric irons should unite with wet wash and rough dry laundries in staging an advertising campaign to combat the tremendous sales of electric washing machines, he presented a basis for creating customers by an alliance of forces often regarded as by no means connected or related by even a single element but which nevertheless has been taken into account by gas companies in Detroit and Ann Arbor, Mich. As a matter of fact prohibition has proved to be one of these "stranger allies" responsible for an analogous situation in pioneering a new creative idea of securing business and thereby hinges a series of experiences full of actual accomplishments and fairly teeming with suggestions as to possibilities for new business through the induction of sales methods founded on other probable combinations of fact.

### Explaining Prohibition

In 1918 when the "dry" spell set in all over Michigan and people throughout the country marveled at the thought of Detroit, one of the largest cities in the United States, as being ightly closed up by a prohibition law, the Detroit Gas Company reached the conclusion that a short time after the enforcement of the law a great many new restaurants were bound to spring up, particularly in locations where saloons had formerly been conducted. Realizing that quite a number of these new eating places would later be discontinued because of the inexperience of their owners, the sales department carefully worked out a plan whereby efforts were put forth to assist as far as possible in the establishment of strategic points throughout the city where by reason of good location or close proximity to factories they were most liable to survive. Naturally enough the principal object of these well-directed efforts was the sale of gas appliances but with the idea of creating a real need rather than merely as a matter of finding a new means of unloading so many ranges or water heaters. As a result facts and figures regarding the operation of restaurants were gathered, particularly of the cafeteria type which has proved very popular in Detroit for a number of years. The prospective restaurant proprietor was also made to see that in opening an eating place he would still be able to retain a great many of the former patrons of the saloon and that after all the fundamental requirements of this new business would be sound judgment and good management such as had characterized his former successful business efforts. Usually the salesman by the use of figures in his possession and with an additional knowledge of the natural territory of the new enterprise was able to formulate a fairly-well defined working plan which was sufficient not only to thoroughly open the eyes of the prospective customer as to his possibilities but to give the new project impetus in the right direction as well.

### How It Has Succeeded

How well this constructive selling campaign has succeeded is evidenced by the fact that with few exceptions these hand-picked eating places have survived and in several cases have been responsible for an extension of the idea on a larger scale. This is particularly evident in the case of one of these new restaurant owners who was so pleased with his success in another line of endeavor that he decided to branch out in the hotel business and as a result erected a good-sized building in one of the principal sections of the city. And it is interesting to note that before undertaking this project he asked the advice and assistance of the salesman who had first sold him gas appliances for his restaurant by presenting facts and figures as to actual possibilities rather than any of the usual persuasive arguments.

### Where the Idea Dated From

And yet all of these carefully-planned selling talks had a very humble beginning in so far as the germ of their suggestion was first discovered. It dates back to an experience of the Washtenaw Gas Company in Ann Arbor, Mich., and even farther back, according to A. E. Bowerfind, sales manager, of the Detroit City Gas Company, who says that he secured the essentials of the campaign from his recollection of one of those typical Ann Arbor restaurants provided especially for student lunches and which according to their owners had as their first equipment "a gas range, a pot of grease and a few pounds of hamburger meat for sandwiches." Bnt after all these restaurants in Ann Arbor where hundreds of students attending the University of Michigan are served every year were brought about largely through similar co-operation on the part of the Washtenaw Gas Company. Right now this same organization is putting forth greater sell-

ing efforts than ever before in the establishment of efficient eating places to take care of the greatly increased student population.

### Easy to Translate Germ of Idea to Detroit

According to Mr. Bowerfind, it was quite an easy step to visualize a similar situation in Detroit where the hundreds of men working in automotive factories who depended on the saloons for their lunches would naturally go hungry unless new eating places were provided, because it became quite obvious just as soon as the prohibition law was passed that the large majority of saloons in Detroit would go out of business through inability to pay high rent and necessary overhead expenses. While the aspects of the situation were slightly different in Detroit, these variations were taken care of largely through changes in methods by which the problems of these new restaurants had to be worked out.

It may be contended that both of these campaigns have been rather unusual and that after all they resulted because of obvious facts or needs which appeared from conditions peculiar to the cities in which they were commenced, but the fact is that quite often the obvious motive is by no means responsible for the addition of a new customer but rather some basis of appeal which has a permanent basis in terms of results or effect as shown by presenting actual possibilities rather than mere general suggestions as to possible results.

### Fluent Persuasion a Pitfall

After all, it is quite easy in a number of cases for a good salesman to negotiate a sale by means of fluent persuasion even though he is sure that the customer will not remain sold. This has happened so frequently in selling merchandise of almost every description that all of us have become familiar not only with its disastrous results but also with the evident conclusion that present-day selling must be tempered with a touch of service which will bring about a permanent sale. In merchandising gas appliances this necessary constructive selling is by no means as apparent as in disposing of other articles but the results obtained in this campaign conducted by the Detroit City Gas Company are especially indicative of what can be done in this connection.

### Adapting It Elsewhere

Already another adaptation of the same principle of selling has been shown in the efforts which are being put forth by the Mt. Clemens, Mich., Gas Company and other organizations in Michigan towns with a view of establishing restaurants and hotels on a similar basis. In Mt. Clemens, which is widely known as a mineral bath resort the use of gas appliances has been increased extensively for hot water baths as well as in Ypsilanti, and St. Joseph, Mich., and to some extent in Detroit, where mineral water endowed with curative properties is found.

However, according to those who have been responsible for this kind of constructive selling it is entirely necessary to make presentations of facts and figures having to do with the establishment of a new enterprise which might require the use of gas and gas appliances entirely by means of a careful analysis of the particular situation of the prospect rather than through a hackneyed set of statistics or general facts.

For this reason it is desirable that salesmen should be as well educated as possible and that they should be able to thoroughly study out a situation and obtain the applicable information.

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## Many New Uses for Gas in the Industrial Field

The industrial gas department of the Public Service Company of Northern Illinois, pursuing its policy of advocating the employment of the best appliances by customers, is urging a number of devices. Altogether many have come into the field, some of them quite new and others presenting possibilities of adaptation to gas requirements. Generally all are interesting. For example, the use of hot oil as a radiator of heat is being made by one of the company's industrial gas customers on the advice of the department's engineers, with remarkable results in the direction of increased output.

This customer manufactures asphalt products. The first use of gas as fuel in that industry in this section of the country was made at this plant. The operations of melting, saturating and coating the material are carried out in steel tanks at a temperature of about 450 deg. Fahr. In the beginning the necessary heat was secured by burning gas under the tanks. Observation of the effects of hot oil circulation in the processes of other industries convinced the industrial gas department people that its extension to the asphalt treatment operations named was entirely feasible. The owners of the plant agreed with them after an investigation. Coils were placed in the tanks and through these oil, heated by gas, was circulated. The effect was an immediate increase in the product amounting to 25 per cent and more daily, with no increase in the consumption of gas.

Another device employed in various manufacturing operations has also been adapted to the conditions of gas burning as an automatic temperature controller. Its prominent feature consists of a heating element made up of an iron tube fourteen inches long which is lined with a second tube made of brass. The latter is sensitive to changing degrees of temperature. That is, it expands and contracts. Placed in the top of a heat treating chamber, the movement of the brass tube actuates a spring which operates a valve. The latter connected with a diaphragm and thermostat releases to the flame more gas or restricts it as the situation demands. A dial, part of the chain of apparatus, is set at the temperature figure required by the operation in process and thus the heat degree wanted is maintained steadily.

The activities of the Industrial Gas Department include the systematic test of flue gases at the plants connected with the company's mains. The purpose is to find and prevent any waste of the fuel. The tests are made as stated in all establishments whether or not a high pressure gas system has been installed. In this last named system the examination of flue gases is a prerequisite. On the subject of valve control reference may be made to a time valve which is being adopted by large consumers of gas. The "turn on" and "turn off" action of it is accomplished automatically. It has a clock attachment. It results in the saving of labor. The need of men reporting an hour or two ahead of the force, for the purpose of starting gas fires is obviated by this time valve.

The department is experimenting with a burner made of lava to be employed when gas is used in large quantities. So far the burner in operation displays marked merit.

American Gas Engineering Journal

SIXTY-FIRST YEAR

Published Weekly by AMERICAN GAS LIGHT JOURNAL, INC., 150 Nassau Street, New York, N. Y.

ELBERT P. CALLENDER, Pres. S. G. KRAKE, Vice-Pres. FREDERICK A. SOUTHWORTH, Sec'y-Treas.

EUGENE C. MILES, Editor

Subscription $3.00 per year, including postage in the United States, Mexico, Cuba, Porto Rico, Hawaii or the Philippines; in Canada, $4.00; foreign, $5.00—Single Copies, 10 cents

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## As the Journal Views It

### Influences That Will Work for Benzol Recovery from Gas Manufacture

More than mere possible profits therefrom to gas companies, more than giving them an unregulated product to help them over periods when inelastic rate relief procedures cut temporarily deep into their revenues, more than possible cheapening of gas supply to the consumer, will be the influences that will work for benzol recovery from motor fuel.

Numerous vast and important industries, in which the capital of thousands upon thousands of people is invested, which provide work and a living to a large part of the country's population are directly and vitally interested in the prolongation of the life of our natural petroleum resources.

We did not begin to use them up at such a rate, that already we can see the end of native petroleum production from wells, until the advent of the automobile. And with increasing percentage of gasoline recovery per barrel of crude oil, the rate of exhaustion increases by leaps and bounds.

The obvious remedy, of course, is to make the gallon of gasoline carry the automobile, the motorboat or the airplane a greater number of miles.

Improved engine efficiency is a step.

Filling out with some other resource is a further step, and thus we come to alcohol and benzol. Neither, to present perspective, can go the whole distance, but they can help, and thus millions with their very existence at stake will become increasingly interested in the maximum production of these two supplements.

### Lower Labor Costs at Higher Wages

We are approaching if not actually upon the threshold of changed conditions as to the employment of labor.

The average citizen of this land either has commenced to feel the pinch of high prices or has awakened to the fact that he has actually been close to "dead broke," while deluding himself that he was whirling along in an unheard-of period of general prosperity.

He is using more sense in buying and getting more wear and usage out of the things he has bought. This has reflected itself in the operations of various producing industries.

Plants that were gluttonous in their demands for labor are cutting down and even temporarily shutting down altogether; weaker businesses, unable to stand the stress of the times, have closed their shops and simply quit.

Labor as now is no longer a thing that is simply not to be had. It still demands high wages—as in the case of decorators and painters to the degree of shutting itself off from a living—but it is in more than ample supply. Strikes are failing with increasing frequency for the reason that there are so many eager hands to take up the tools the striker lays down that one wonders at the blind leadership that has led its followers to so futile a step.

We are close to a point where wage scales will be determined upon the sound basis of what the worker needs and what the business can afford. The decision rests largely in the hands of the employer. And the employer if wise will desire to maintain the highest scale possible.

It is an injustice to labor to plead that the possible selling price will not justify a certain scale when we have left one stone unturned that will enable us to meet that selling price even at such a scale.

Thus the mine owner in a pick and shovel and hand-drill undertaking pleads with poor grace should he argue that a miner can turn out only so many tons a day and those tons will not sell above a certain unit price, when by providing that miner with obtainable and practical mechanical aids he can enable him to turn out double that number of tons.

In the coming era let the employer establish himself in the confidence of his worker as one who at times when the power rests in his hands uses it with broad and generous justice, and labor problems in the future will not with great frequency appear. We who in these past few years have wondered at labor's lack of response to pleas for fair play and square dealing forget that these workmen were born of men who in their day, looking for square dealing and fair play on the part of the employer in whose hands rested the power, too often looked in vain.

Industrial relations have too long been a hurly-burly affair in which the side on top—sometimes capital, as often labor—got all that was gettable, with slight consideration of the other.

Let the employer in the day that is ahead offer the first example of the practice of a new and nobler theory.

Give labor no more than its proportionate share can be sold for, but give it the means of making its share greater by greater output—the most modern labor-saving and money-saving equipment that is practical and available in the market places.

# Correspondence

### Gas Without Oil

Sir.—I wish you would take up in the columns of your valuable paper the effect the increased prices of oil and coke are having on the gas companies. As you know, gas oil has increased 400 per cent, coke has increased 500 per cent, and you know with these prices for materials there is only one thing left for gas companies, and that is bankruptcy unless the situation can be changed.

It may be with an increase in the mining of soft coal, out of which coke is made, the price of coke will fall in the near future, but in the cost of oil it appears to be so thoroughly in control of a few of the large oil companies that no relief is to be hoped for or expected. They seem to be ready and willing to grab it all, as the statements of all the oil companies show they are making several hundred per cent for their stockholders, but so manage the sale of oil to the gas companies as to deprive them *of any per cent whatever*.

It seems to me there is only one relief and that is to do away with the water gas process, install a plant to make gas out of soft gas coal. This is a subject I would like you to discuss in your paper and get the opinions of the manufactuing plants to make gas out of coal without the use of oil, as well as the gas companies who are suffering from excessive prices for which there is no possible excuse whatever by the oil companies.

Very respectfully yours,
MIAMI GAS COMPANY,
H. M. VAN COURT, President.

Editor's Note.—The same possibility as is suggested in Mr. Van Court's letter has been pointed out in the editorials of the AMERICAN GAS ENGINEERING JOURNAL on various occasions.

When there comes the time when the cost of anything approaches or reaches the prohibitive point some substitute or means of avoiding the need of that thing is found—has to be found.

The prohibitive point in oil cost for gas making has not been determined. Many thoughtful persons expressed the belief that it would be reached should the price go higher than 10 cents a gallon.

But seemingly prohibitive oil costs have been accompanied by other conditions that have prevented hair-trigger adaptations of the obvious substitute.

A coal gas plant under existing oil prices may be preferable to a water gas plant, though coal costs are

also high, and from the Middle West comes complaint of insufficient coal rather than of oil, but the fact remains we cannot make coal gas without a coal gas plant. Aside from the question of the excessive cost of constructing such a plant in these times with the consequently large interest charges, there is the almost utter inability of obtaining the funds in a tight money market and rather bad light in which the utilities stand in the eyes of the investing public.

This JOURNAL cannot find fault with the oil companies for raising their prices beyond the gas company's ability to pay, if they have found a customer, and it appears that they have in the automotive industry, who can and will. It is certain, however, if there is a big oil man who is not confident that his industry has forever passed the point where the gas industry's business is of importance to its stability, he must regret even as much as the gas man this tendency of oil price to advance to points where at any moment may be added the last straw, the straw that will compel gas companies to turn completely away from oil as a raw material for gas making or, perhaps, lacking the means to make the change, go out of business altogether.

It is our belief that Mr. Van Court sounds a warning of a departure that eventually will come to pass. But the only alternative seems to be to observe closely and to wait.

## Lack of Easily Accessible Information on Financial Standing a Handicap to Gas Industry Financing

(*Continued from page* 236.)

It is for the investor to say whether he thinks this second issue of sufficient attractiveness.

But in estimating the value of the equipment the market value of the property, it may become necessary to draw the line somewhat further than taking just the equipment as the basis of the valuation of later capitalization. All industrial equipment can be of use only if it is profitably employed. In turn the value of that equipment is largely affected by the use that can be made of it. This is the cause, why gas rates have influenced in recent years so much the capitalization of the gas industry. The new shareholders which will have to be attracted to the gas industry will view the base of capitalization offered by the industry principally from the point of view of present value of the enterprise, commonly called market value and the likely earning capacity of that equipment. The market price of the total plant including its good will and distribution equipment most likely will be higher to-day than it was five years ago on account of the increase in the cost of equipment. But its value may be lowered again by reason of the decrease of the earning power of the gas industry. It is, therefore, very doubtful whether the gas industry can offer to the investor any appreciable advantage over any other industry in the matter of security. No doubt the valuation of most properties will have increased somewhat but it is not quite clear whether this increase is sufficiently comprehensive as to offer a possibility for added capitalization.

Unfortunately, there is very little to show where and how such an increase in actual value of the property has been obtained. It is here where the lack of easily accessible information about the financial standing is felt most severely and where the change in method of recording and reporting is required.

If the industry can show that it is sound, notwithstanding its difficulties of making both ends meet with present earnings, a case can be made out for the issue of new capital for the purpose of making improvements, likely to increase the scope and earnings of the industry. Security for this capital might be given in the form of a mortgage upon the actual improvements in equipment and distribution facilities. It is very questionable, however, whether this all would be regarded sufficient security for the issue of bonded capital. Gas men and public service commission will have to co-operate in an attempt to find a basis for gas capitalization which will be both sound in principle and safe for the investor with the added inducement of a likely future increase in the capital value of the investment. The solution most likely will lie in a general revolution of all gas property for the purpose of rate making and, to make access to the facts more easy, a uniform system of accounting.

## The Gas and Oil Turbine

The steam turbine can justly claim considerable superiority over the steam reciprocating engine, and since even at the present comparatively early stage of its development the internal combustion reciprocating engine possesses many features which make it superior to the steam reciprocating engine, it does not seem too much to conclude that the internal combustion turbine, when commercially developed, should be a better form of prime mover than the steam turbine. This train of thought has led many scientists and inventors to attempt to solve the problems of the gas and oil turbine, and while at the present time it cannot be said that success has yet crowned their efforts, it will be conceded that up to the time of the outbreak of war considerable progress had been made, and many initial difficulties had been overcome. The war itself led to the cessation of these attempts; it demanded the bending of the scientific and inventive genius of the nations to more immediate and utilitarian needs but now that the war is over it is surely not too much to hope that this problem will again be faced, and that the successes already achieved may be further developed.

The internal combustion principle, that is the principle in which the heat of the fuel is given up in the engine itself, yields an engine of higher thermal efficiency than the external combustion engine, where the heat of the fuel is liberated in an external vessel such as a boiler and thence conveyed to the engine by a medium such as steam, mainly on account of the fact that it enables the limits of temperature of the working substance to be extended. Carnot has shown that in the ideal heat engine the thermal efficiency can be measured by the ratio $(T_1—T_2)/T_1$, where $T_1$ is the higher limit of temperature in the engine and $T_2$ the lower limit, both of them being measured on the absolute thermometric scale. Although there is no practical cycle of operations which is in complete agreement with Carnot's ideal cycle, the nearer they approximate to it the greater is the efficiency which is possible. In the gas and oil engine we have the actual temperature of combustion occurring in the engine as against, at best, the temperature of highly superheated steam for the higher limit, and while the temperature of the exhaust is certainly higher in the gas and oil engine than it is in the steam engine, it will be realized that the ratio $(T_1—T_2)/T_1$ has a greater value in the former case than in the latter. Again, the elimination of the boiler with its many sources of loss of heat, must tend towards an increase of efficiency, but since in mod-

ern practice using oil fuel it is possible to obtain a boiler efficiency of over 80 per cent, this source of loss is not so important as hitherto, particularly if an internal combustion engine is to run on producer gas instead of oil.

The higher limit of temperature in the internal combustion engine is unfortunately rather too high for practical purposes. Whether in the constant volume explosion engine or in the constant pressure slow combustion engine, the temperature is so high that it demands a most careful designing of parts subjected to the direct effects of this temperature if they are to withstand the distorting and burning effects produced, and this in its turn demands some form of jacketing either with cold water, air or oil. It can safely be said that it is on account of the difficulty of dealing successfully with the high temperatures met with that the diameter of the cylinder of the internal combustion reciprocating engine is limited, in Diesel engine practice, to about 30 in., and the power developed per cylinder to about 250 hp. in the four-stroke engine and 400 hp. in the two-stroke engine. Similarly in the internal combustion turbine the greatest difficulty so far met is the effect of the high temperature gases on the blades. There is, unfortunately an additional difficulty to be overcome in the gas and oil turbine, and that is the erosive effect due to the fact that the gases are moving with high velocity. This erosive effect of hot gases at high velocity is well known to be the cause of the short life of the linings of guns of large caliber. The late Lord Fisher realized the enormous potentiality of the internal combustion engine, and while perhaps he did not necessarily visualize the gas or oil turbine, he recognized that the development of the internal combustion engine was wrapped up in the problem of finding a suitable material which would successfully withstand the effects of high temperatures. The problem is therefore a metallurgical one, and it is to be hoped that researches will be initiated in the direction of finding materials of great strength capable of resisting the effects of high temperatures. The successful outcome of such research might well lead to the final triumph of the economical internal combustion engine. Certain laboratory experiments have already shown promising results and small turbine units operating upon internal combustion principles have been built and run successfully for short periods.

## Advocates Regenerative Coke Oven in Localities Where Its Use Is Practical as Most Efficient Means of Gas Manufacture

(*Continued from page* 238.)

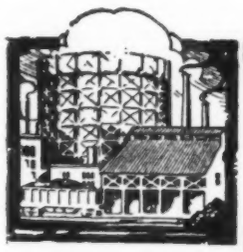
gas supply of the town of Middlesbrough has been coke-oven gas. The average daily supply runs about 2,000,000 cu. ft., and no manufacture of ordinary gas has taken place since 1915. Shortages in the supply from the coke ovens are made good by the manufacture of carburetted water gas during the periods when town requirements exceed the oven supply. There has been no serious hitch in this undertaking; and its success has been assisted by harmonious co-operation of the representatives of the firm with those of the municipal gas authority. The public of Middlesbrough have obtained considerable financial benefit from this supply of gas, because, in the first instance, they could buy the gas cheaper than they could manufacture gas of equal quality, and they have not been called upon to pay an increased price due to the rise in price of coal. To-day this gas, with a selling price approximately 2s. 4d. per 1,000 cu. ft. net, compares very favorably with any fuel for heating and cooking. The gas engineer informs me that its use has extended until the demand for cooking at meal hours exceeds that in lighting hours. This must be of importance in its influence in reducing distribution costs, etc.

In conclusion, the author desires to dispel a popular error. The Middlesbrough public have been heard to talk of coke-oven gas as a waste product; and the press rather foster this idea. All combustible gas is a fuel capable of use in replacing coal. When gas is used in a gas engine to develop power, or rich gas like coke-oven gas can be used to bring into use for certain purposes inferior gas, such as that from blast furnaces, its value becomes very high. Buyers of coke-oven gas from coke-oven undertakings will always be called upon to pay for it at least at its value in such connection under economic conditions. They have been, and still are, in most towns paying much higher prices than this for coal gas as usually supplied. Further than this, if the consumer or municipal authority sets up a high illuminating standard, on which account benzol which could be recovered at a profit has to be left in the gas, they must also expect to pay that profit. This should be clearly understood, because it is necessary that all fuel should be made the best possible use of to-day, when the supply threatens to be insufficient to satisfy the demand, and when exports of fuel, or of manufactured articles in which fuel is a main cost factor, are absolutely necessary to pay for the supply of food without which this country cannot continue to support its population.

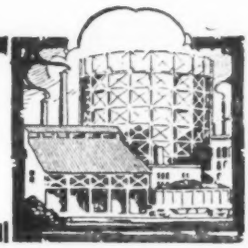
The author advocates that, in all places where it can be adopted, the regenerative coke oven poducing metallurgical coke is from a thermal point of view the most efficient means for gas manufacture, and that, compared with ordinary gas works' returns as published, if it can be adopted, it can supply cheaper and better gas to the town consumer at prices nearer the true thermal value.

## Analyses by Bureau of Mines Not to Be Used for Advertising Purposes

A number of instances have recently been brought to the attention of the Bureau of Mines, in which reports of analyses made by the bureau have been used for advertising purposes. In some cases, general statements made by the bureau have been used to advertise some trade-marked or proprietary preparation. For example, one company submitted a sample of motor fuel to the Bureau of Mines during the war to see if it would be satisfactory as an aviation fuel. Recently, this same company has been advertising a motor fuel under a trade name as having been "thoroughly tested by the Government Bureau of Mines in Washington, D. C., successfully fulfilling every claim made for it by the inventor." On investigation it has been found that the fuel which is being advertised is very different in characteristics from the fuel originally submitted for test. The bureau wishes to emphasize that analyses and tests are made only when it is a matter of public interest to do so, and no authority has been or will be given to use this information for advertising purposes.



# NEWS OF THE GAS INDUSTRY



## Forrest Asks Rate Increase to Conserve Gas

Increased rates for domestic consumers who use more than possibly 2,000 cu. ft. of gas a month were suggested as the best method of conserving the winter gas supply in Indianapolis at a conference between directors of the Citizens Gas Company, Indianapolis, Ind., and the Public Service Commission. City officials and consumers participated in the meeting.

J. Dorsey Forrest, general manager of the company, was requested by E. I. Lewis, chairman of the commission, to submit information necessary for the establishment of such a scale at once. Mr. Lewis intimated that the commission will issue a conservation order, embodying the suggestions of the conference, within two weeks.

Under the proposed plan, domestic consumers would be allowed a maximum amount of gas—between 1,000 and 2,000 cu. ft.—at the present rate of 60 cents. For the next 1,000 cu. ft. the rate would jump to approximately $1, and for each succeeding 1,000 ft. a correspondingly heavy charge would be made. Industrial consumers, hospitals, hotels and restaurants would be allowed a maximum consumption based on the amount of gas used during three summer months at the 60-cent rate, with similar increase to those proposed for domestic users for excess consumption.

Mr. Lewis estimated that there are approximately 65,000 consumers of gas. Of these, 20,000 use less than 1,000 cu. ft. a month and would not be affected by the proposed increase. Possibly 40,000 individual meters show a consumption of 2,000 cu. ft. or less each month, while the remaining 5,000 who burn in excess of the suggested maximum, are in the main restaurants, hotels or manufacturing plants and would come under the classification to which a much greater maximum consumption would be granted.

The rate plan, it was declared, would result in the curtailment of excessive use of gas during the winter months. It was stated that in case the initial charge is sufficiently severe, much waste of gas would be avoided, and that many persons using gas to save their coal would cease the practice.

Mayor Jewett suggested that in case a penalty is provided for excessive users of gas, through the introduction of increased rates, consumers staying within the prescribed maximum should be rewarded. He said that consumers meeting the spirit of a conservation order should receive 55-cent gas. This proposal was vigorously seconded by Samuel Ashby, corporation counsel.

Directors of the company objected to the proposal of the mayor, declaring that many small users of gas are now receiving service at less than cost under the 60-cent rate.

Directors of the company indicated that the company could not long continue to make such a good showing under the 60-cent rate. It was stated that within a few years this rate must be abandoned. Mr. Swift said he believed that the gas rate should be increased to 75 cents. He pointed out that this suggestion was not made as a part of the program to conserve gas this winter, but with the idea of providing for the expansion of the company to catch up with the growth of the city.

The seriousness of the gas situation which confronts Indianapolis was detailed by Mr. Forrest in a prepared statement submitted to the commission. He stated that the company now has on hand 18,000 tons of coal, a ten days' supply, as compared with 105,000 tons at this time last year. He said that the company had 26,000 tons of coal on Aug. 1, indicating that conditions are growing worse.

Concerning the oil supply, Mr. Forrest said that situation likewise was serious. He declared the company has on hand 300,000 gallons, estimating that this supply, under curtailment orders recently issued, might last thirty days.

Mr. Forrest said that the company is receiving, at the present time, slightly more coal than is being used, but that the surplus is not enough to build up an adequate reserve supply. He indicated that this situation would soon change and that they would receive less coal than is used daily.

The company now is using about 1,800 tons of coal a day, Mr. Forrest said, producing 8,500,000 cu. ft. of gas. By using its water gas machinery the plant can produce about 11,500,000 cu. ft. a day at present, he said, but the demand in cold weather often exceeds this amount.

Mr. Forrest indicated that unless some remedy is found for the situation, the rationing of gas in Indianapolis this winter will be unavoidable. He said that the only means of relief is through an economic remedy.

## U. G. I., Now Operating at a Loss, Asks Readjustment in Rates

Mayor Moore of Philadelphia, Pa., has transmitted to council a letter from Samuel T. Bodine, president of the United Gas Improvement Company, requesting that at the earliest possible date the city secure "capable and impartial experts" to study the situation relative to the manufacture and distribution of gas there and recommend readjustments in the lease of 1897 as "may seem wise and fair under existing conditions."

In his letter Mr. Bodine said that the rising costs of the production of gas had resulted in a loss to the company of $4,240,472.45 in 1918, 1919 and 1920, although in the same years, under the terms of the lease, the city has received a profit of $14,270,-638.54.

When the war began, Mr. Bodine explains, the Philadelphia Gas Works was the only gas works in the country equipped to produce toluol, the demand for which was largely in excess of the supply. This made it possible during 1915, 1916 and 1917 to offset to some extent the steadily-increasing cost of gas manufacture from the increased profits of the residual business which had been

built up at the Philadelphia Gas Works.

In 1918 the situation changed. The city's share of the $1 paid by consumers was increased to 25 cents per thousand cubic feet, and simultaneously with a reduced revenue per thousand cubic feet the company was faced by further greatly-increased costs, so that during the three years, including 1920, the company figures a loss of $4,240,472.45.

In order to reduce the consumption of oil and guard against a shortage of gas this winter, City Council, on July 13, 1920, authorized the temporary substitute, until January 1, 1921, of a 530 B.t.u. standard for the twenty-two candle power standard provided for in the lease.

Mr. Bodine declares that the future development of the gas business depends upon a decision as to whether the B.t.u. standard shall be made permanent, and, if so, upon how many B.t.u. per cubic foot of gas shall constitute said standard.

"An erroneous decision on the question of standards," he says, "or failure to act promptly, may seriously impair the efficiency and greatly lessen the value of the city's most important asset."

According to Mr. Bodine, radical changes in economic conditions brought about by the war have so increased the cost of manufacturing and distributing gas as to render it financially impossible to continue operation under the terms of the present lease.

In discussing the 1920 figures—the last six months being estimated—the letter states that the city will make a profit of $5,274,766.58, while the gas company will lose $2,654,089.38.

The results for 1920 are based on five cents per gallon for oil at both manufacturing stations up to Aug. 1, and after that date on thirteen and one-half cents per gallon at one station and five cents per gallon (under a 1919 contract) at the other, or an average of nine and one-quarter cents per gallon for the entire supply.

Mr. Bodine says that even at thirteen and one-half cents per gallon the company has been unable to contract beyond Feb. 1, 1921, for the Point Breeze Works and that the five-cent contract for the twenty-fifth ward works will expire about the same time and cannot be renewed at less than thirteen and one-half cents per gallon.

After listing cost increases, wage increases, etc., the letter concludes:

"But for this great increase in wages and in the cost of material the United Gas Improvement Company would have been able, until the termination of the lease, on December 31, 1927, to provide for $1 per thousand cubic feet, the high quality of service to the consumers which has obtained during the last twenty-three years and to maintain the city's present profit of $5,275,000 per annum. Under existing conditions it will be impossible for us to do so."

## Demand for Water Heaters Brings Out New Inventions

The steadily increasing demand for water heaters operated with gas as fuel is acting as a stimulus to inventors. The engineers of the Public Service Company of Northern Illinois have recently finished tests of one of the appliances brought out which is in effect a miniature instantaneous heater. The tube containing the copper coils which constitute an essential feature of the heater is about five inches in diameter and eighteen inches high. It is reminiscent of a stove pipe. The appliance is placed close to the kitchen sink. Water is heated as it flows. A lever controls the gas flame. This set in different positions causes either lukewarm or very hot water to issue from the faucet.

A type of tank water heater somewhat smaller than the customary article is among the leaders in the sales demand. Both the tank and automatic types have been in good demand this summer. Surveys made of the field in the towns supplied with gas fully confirm estimates of the largeness of possibilities in this particular market. There are very many houses using gas for cooking in which methods of heating water are simply those of boiling it in a kettle or vessel.

## 44,000,000-Ft. Gasser in Oklahoma

Word has just been received of the bringing in of a 44,000,000-ft. gasser near Duncan, Okla. This well is about a mile and a half south of the big Best of All gas well, which was brought in about six weeks ago, and is about four and a half miles west of the Empire field.

## Eau Claire Gas Co. Granted 50-Cent Rate Increase

Gas in Eau Claire, Wis., will cost the consumer 50 cents more per thousand cu. ft. under a new rates award just handed down by the State Railroad Commission. In May the Wisconsin-Minnesota Light & Power Company applied for an increase, which was granted in part. Some weeks ago another increase was applied for, and hearings held.

The present or existing rate is $1.90 gross or $1.80 net per thousand cu. ft. for the first two thousand cubic feet of gas used per month, with a minimum of 50 cents per month. The rates are lower for quantity use of gas.

Under the new rates made by the railroad commission the schedule will be $2.40 per thousand feet per month for the first 5,000 ft., with correspondingly lower rates for quantity use, with a minimum of $1 per month. The company asked for an increase of more than the rate granted.

Here is the way the present rates and the new rates compare:

NEW SCHEDULE OF RATES

| | Gross | Net |
|---|---|---|
| For the first 5,000 cu. ft. per month | $2.40 | $2.30 |
| For the next 5,000 cu. ft. per month | 2.20 | 2.10 |
| For the next 20,000 cu. ft. per month | 2.00 | 1.90 |
| For the next 30,000 cu. ft. per month | 1.80 | 1.70 |

Minimum per month $1.

RATES NOW IN FORCE

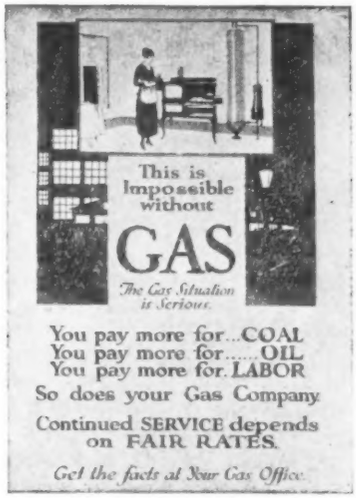
| | Gross | Net |
|---|---|---|
| For the first 2,000 cu. ft. per month | $1.90 | $1.80 |
| For the next 3,000 cu. ft. per month | 1.80 | 1.70 |
| For the next 5,000 cu. ft. per month | 1.70 | 1.60 |
| For the next 20,000 cu. ft. per month | 1.55 | 1.45 |
| For the next 30,000 cu. ft. per month | 1.45 | 1.35 |

Minimum per month 50 cents.

UNITED OKLAHOMA OIL & GAS COMPANY, drilling for the United Gas & Electric Corporation, New York City has brought in a well in the Homer field, Louisiana, flowing 7,000 barrels initial. The company has two additional wells under way in the same field.

Can you run your business at a loss-
Neither can your Gas Company.
Continued SERVICE depends on FAIR RATES.
The Gas Situation is Serious
Get the facts at Your Gas Office.

No. 1


This is Impossible without
GAS
The Gas Situation is Serious.
You pay more for...COAL
You pay more for.....OIL
You pay more for. LABOR
So does your Gas Company
Continued SERVICE depends on FAIR RATES.
Get the facts at Your Gas Office.

No. 2

No. 3

## Tell Your Story to the Public with Pictures

The Emergency Committee of the American Gas Association has prepared a set of five posters which on request will be sent free to every gas company. These posters tell a story which gas companies have to tell the public, and if told convincingly and frankly will bring about a better and more sympathetic understanding of their need for relief.

We know of the greatly increased cost of coal, oil and labor, that rates are inadequate to pay a fair return on the investment or attract new capital with which to make necessary additions to the plants, and that generally the gas companies are having the greatest difficulty in maintaining such an essential service. But the people do not know these facts.

The best way to tell them and gain their support is to visualize the needs of the industry through the medium of the billboard posters.

We have but to recall the compelling force of the posters used during the war, which visualized the needs of the country for men, materials and money with which to carry on.

The use of the billboard poster has become a national usage in helping build up a demand for hundreds of well-known and indispensable commodities.

Recruiting for the army and navy has been greatly stimulated by the compelling posters used to describe the advantages of life in Uncle Sam's service.

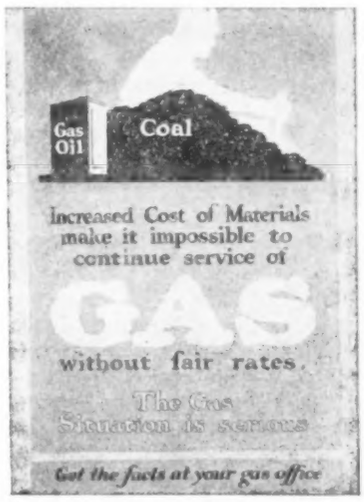
They will respond quickly and the force of such public opinion expressing itself in favor of fair treatment for our industry will be worth every effort we can make to cultivate such good-will.

To carry out this plan and focus the public attention upon the gas industry's problems, we must have the support of every gas company in the country. It cannot be a spasmodic effort. It must be done by all companies at one and the same time.

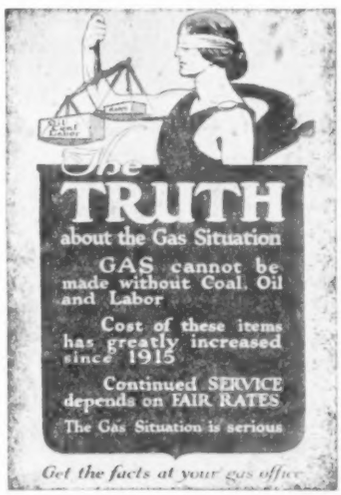
This is one more of the many plans of the Emergency Committee for getting favorable consideration of our industry's needs.

While it is true that many companies have had increases in their rates recently, it is nevertheless essential that the public be satisfied that this has been necessary, and these posters will help do this as well as prepare its mind in other situations where increases are pending or about to be asked for.

Sets of stickers in the same design as the posters may be had and should be used on all gas bills, envelopes and correspondence of all kinds. The posters should be displayed in prominent places such as show windows of merchants, gas company display rooms and on delivery wagons.




No. 4


The
TRUTH
about the Gas Situation
GAS cannot be made without Coal, Oil and Labor
Cost of these items has greatly increased since 1915
Continued SERVICE depends on FAIR RATES
The Gas Situation is serious
Get the facts at your gas office

No. 5

## Tentative Rates for Vincennes Fixed by Indiana Commission

Tentative rates for the Central States Gas Company at Vincennes, Ind., were contained in an order just entered by the Public Service Commission of Indiana. The rates are to be effective until Feb. 1, 1921, because the commission said it did not have enough information on which to base a permanent rate order. The company recently has changed from a coal-gas basis to a water-gas basis, and the commission held that additional experience on the new basis was necessary before a permanent rate order should be fixed.

Present rates of from $1.40 to 90 cents per 1,000 cu. ft. were increased to a new schedule of from $1.90 to $1.50 per 1,000 cu. ft., with $1 minimum monthly.

The commission also directed the company to discontinue a special rate to the Illinois Gas Company, because, the order said, a loss of $15,000 a year has been shown under this rate. A B.t.u. heat content average of 500 is ordered maintained by the company. Commissioner Paul P. Haynes handled the case.

The order follows:

On May 15, 1920, the City of Vincennes filed a petition asking the commission to provide measures for relief from the "present inadequate standard of gas and inadequate service now being rendered by the Central States Gas Company to its consumers." The city alleged that the pressure of gas was inadequate and less than the standard required by the company's franchise; that the heat units of the gas furnished had been below the franchise requirements, and that the daily average for the month of April, 1920, was 411 B.t.u. per cubic foot.

On July 12, 1920, the Central States Gas Company of Vincennes filed with the commission a petition asking authority to increase its rates for gas, and on July 16, 1920, filed another petition alleging that an emergency existed, and that, in order to prevent injury to the business and interests of the gas company, it was necessary that rates for gas at Vincennes be increased without delay.

After due notice a hearing on all the petitions was held July 30, 1920, at Vincennes.

The matter of gas service at Vincennes heretofore was considered by the commission in cause No. 3413. An order was entered in said cause prescribing certain standards of service and penalties. An investigation by the engineering department of the commission at that time disclosed that either the faulty design or construction of the gas plant was largely responsible for inadequate service. After the commission's investigation and order, the service improved. It appears, however, that in the latter part of 1919, and until about June 15, 1920, the service was extremely inadequate. The company contended that the inadequacy of service resulted primarily from the very poor quality of coal which, due to chaotic coal conditions, it was necessary to use in the manufacture of gas.

The City of Vincennes installed a calorimeter, and frequent tests of gas were made by a competent person on behalf of the city. The reports of these tests, which were accepted by the company, disclose that the daily average heating value of the gas for the month of April, 1920, was 411 B.t.u. per cubic foot; for May, 374.5 B.t.u. per cubic foot; for June, 487.7 B.t.u. per cubic foot, and for July, 554.5 B.t.u. per cubic foot.

The company operates under a franchise granted by the City of Vincennes which prescribes a standard of 550 B.t.u. per cubic foot. It is obvious, therefore, that during the months of April, May and June the company not only failed to meet this standard but furnished gas of exceedingly inferior quality.

The evidence disclosed that the company took steps in April, 1920, to install a water-gas plant. It was shown that the company rushed the installation of this equipment, and it was completely installed and in operation in June. A study of the reports of the city's expert who made the B.t.u. test disclosed that the heat value of the gas on June 9, 1920, was 364.5 B.t.u., and on the following day was increased to 454 B.t.u., and from that time continued to increase until the standard of 550 was reached. The water-gas set was put into operation about June 10, 1920, and a marked improvement in service was observed immediately.

At the hearing the city officials stated that since June 15, 1920, the service had been adequate and that there was no complaint, but insisted that a continuance of adequate service should be assured by providing penalties for any future failure by the company to conform to reasonable standards. The company made no objection to such a provision, and the commission will include in its order stipulations of this nature.

Representatives of the city stated that they had no objection to the authorization of reasonable and adequate rates, but did insist upon adequate service.

The present gas rates are as follows:

| | Per 1,000 Cu. Ft. | |
|---|---|---|
| | Gross | Net |
| First 2,000 cu. ft.... | $1.50 | $1.40 |
| Next 1,000 cu. ft.... | 1.35 | 1.25 |
| Next 1,000 cu. ft.... | 1.20 | 1.10 |
| Next 1,000 cu. ft.... | 1.10 | 1.00 |
| Over 5,000 cu. ft.... | 1.00 | 0.90 |

The net rate applies to all bills paid by the fifteenth day of the month succeeding the month of consumption, and the gross rate applies to all bills not paid by the fifteenth of the month succeeding the month of consumption. A monthly minimum charge of 90 cents shall be made.

Upon an investigation heretofore made by the engineering department the commission tentatively fixed the value of the company's property at $500,000. The cost of the water-gas set which has recently been added was approximately $30,000. For the purposes of this cause the value of the property will be fixed tentatively at $530,000.

The change from coal-gas to water-gas operation in the month of June brought about a changed operating cost basis, and the expense of coal-gas operation for the first five months of 1920 and for both coal-gas and water-gas operation in June fails to furnish adequate figures upon which a rate can be based. Generally speaking, water-gas is more expensive than coal-gas operation but, in view of the present coal situation, the service is far more dependable. The company's books show that in the month of June, 1920, the gross revenues of the company were $13,446 and the total operating expense $17,688, resulting in an operating loss for the month of June alone of $4,242.

Certain deductions from the operating expense shown by the company should be made, however, for charges which are improperly included. The company's statement of expense includes a charge of $952 for relining quenching cars. An expense of this character should be spread over the entire year, and the amount charged to the month of June should be approximately $80. There should, therefore, be a deduction from this item of approximately $872. There was charged for "promotion of business" during the month of June $566. This amount does not represent the sum which under usual conditions will be expended each month for this expense. This item should be reduced to approximately $200, resulting in a deduction of $366. There is included in the general expense a charge of $679 for interest. This item should be entirely excluded from the expense account. Under proper accounting this item is a deduction from income. The injuries and damages account is charged with $584. This sum represents a judgment which was paid by the company for injuries and as an item of expense should be spread over the entire year. Approximately $49 should be charged to the expense for June, resulting in a deduction of approximately $535.

The deductions heretofore mentioned which properly should be made from the June expense as shown by the company's books reduce the company's operating expense to $15,238 but still leave a direct operating loss for the month of June of approximately $1,800.

At the time the present rates were authorized in 1919 the company was paying approximately $5.25 per ton of coal carbonized. At the time of the hearing in the present cause the price of a fair quality of gas coal was shown to be from $10 to $11 per ton at the mine, with a freight rate to Vincennes of $2.45 per ton. With the water-gas set in operation the cost of coal will not constitute such an important factor in the operating costs except as the coal-gas plant is operated to produce coke for water-gas operation. The cost of oil at Vincennes for enriching purposes in water-gas operation at the time of the hearing was approximately 11 cents per gallon. So long as these abnormal costs prevail it is difficult for the City of Vincennes to escape what may be considered a high gas rate.

It is obvious that since the company operates its business without any return on investment, and suffers a substantial operating loss each month, an emergency exists which is injuring its business and interests. It is clear that relief must be granted and that substantial rate increases must be authorized to permit the company to meet the present situation.

For the month of June it cost the company from $1.50 to $1.60 per 1,000 cu. ft. of gas sold to the Illinois Gas Company, a related corporation, which serves the towns of Lawrenceville, Bridgeport, Sumner and Olney in the State of Illinois. Approximately 40 per cent of all the gas sold goes to the Illinois Gas Company. The company realized approximately 90 cents per 1,000 cu. ft. for gas sold to the Illinois company, and it is estimated that on the present rate and cost basis the company is suffering a direct operating loss of approximately $15,000 per year as a result of this sale of gas to the Illinois company. The City of Vincennes should not be required to carry this burden, and the rates herein established for sale of gas to other utilities will be sufficient to prevent the Vincennes consumers from being burdened by the sale of gas to the Illinois company.

The gas sold to the Illinois Gas Company is not metered but the meter readings of the various consumers in the Illinois towns plus a low estimate for main leakage is the basis for computing the total gas sold to this company. This method is inaccurate and, in the judgment of the commission, improper. The company will be ordered to install a meter at its plant in Vincennes which will accurately measure all gas sold to the Illinois company, and the Illinois company should be billed for the amount of gas as disclosed by monthly readings of said meter.

The commission, being advised in the premises, finds that an emergency exists; that, in order to prevent injury to the business and interests of the petitioner, the existing rates should be temporarily increased, and that petitioner should be authorized to charge, until Feb. 1, 1921, or until the further order of the commission, the rates set out in the appended order.

It is therefore ordered by the Public Service Commission of Indiana, That the Central States Gas Company be, and it is, authorized and directed to charge and collect the following rates for gas:

| | Per 1,000 Cu. Ft. | |
|---|---|---|
| | Gross | Net |
| First 2,000 cu. ft... | $2.00 | $1.90 |
| Next 3,000 cu. ft... | 1.90 | 1.80 |
| Next 5,000 cu. ft... | 1.80 | 1.70 |
| Next 10,000 cu. ft... | 1.70 | 1.60 |
| Over 20,000 cu. ft... | 1.60 | 1.50 |
| Monthly minimum charge, per meter. | 1.00 | 1.00 |

Bills shall be rendered and due monthly. If paid within fifteen days, beginning with and including the day bill is rendered, the net rates shall be charged; otherwise the gross rates shall be charged. When the fifteenth day falls on Sunday or any other legal holiday, the first business day thereafter shall be included in the service period.

Gas sold to other utilities shall be billed monthly under the above schedule of rates.

The above rates shall be effective for bills rendered Sept. 1, 1920, and shall continue in effect until Feb. 1, 1921, or until the further order of the commission.

It is further ordered, That the gas furnished by the Central States Gas Company to any place within a mile of its manufacturing plant shall have a monthly average total heating value of not less than 500 B.t.u. per cubic foot. To obtain the monthly average total heating value made on each day during the calendar month shall be averaged, and the average of all such daily averages shall be taken as the monthly average. The company shall on or before the third day of each calendar month make verified report of the daily B.t.u. tests and the monthly average to the commission and to the City of Vincennes.

It is further ordered, That consumers shall be billed at the standard rate fixed in this order when the B.t.u. content averaged for the calendar month does not fall below 525 B.t.u. per cubic foot and when the monthly average falls below 525 B.t.u. per cubic foot the following rates for gas shall be effective:

SCHEDULE FOR GAS BELOW 525 B.T.U.

| | P. C. of Standard Rate |
|---|---|
| 525 B.t.u. or above | 100 |
| From 525 B.t.u. to and including 510 B.t.u. | 90 |
| From 510 B.t.u. to and including 500 B.t.u. | 80 |
| From 500 B.t.u. to and including 490 B.t.u. | 70 |
| From 490 B.t.u. to and including 480 B.t.u. | 60 |
| From 480 B.t.u. to and including 470 B.t.u. | 50 |
| From 470 B.t.u. to and including 460 B.t.u. | 40 |
| From 460 B.t.u. to and including 450 B.t.u. | 30 |
| From 450 B.t.u. to and including 440 B.t.u. | 20 |
| From 440 B.t.u. to and including 430 B.t.u. | 10 |
| From 430 B.t.u. to and including 400 B.t.u. | 0 |

It is further ordered, That in all particulars not herein specifically provided for the Central States Gas Company shall conform its service to the standards of service for artificial gas utilities prescribed by the commission.

It is further ordered, That on or before Sept. 1, 1920, the Central States Gas Company shall file with the tariff department of this commission, and shall post and keep posted in its office in full view of the public during the entire period such schedule is in effect, a printed or typewritten copy of such schedule of rates, as required by Sections 41-47 of the Public Service Commission Act.

It is further ordered, That the Central States Gas Company proceed at once to install and maintain books and records in full conformity with the uniform classification of accounts prescribed by the commission, and that monthly operating reports be made to this commission beginning Sept. 1, 1920, and continuing until the further order of the commission.

It is further ordered, That the Central States Gas Company, on or before Nov. 1, 1920, shall install at its plant in Vincennes a meter on the transmission line which serves the Illinois Gas Company, and shall bill the Illinois Gas Company monthly for all gas sold under metered measurement.

It is further ordered, That the Central States Gas Company shall set aside annually for depreciation 1½ per cent of the value of its depreciable property, which value is found to be $530,000, plus the cost of additions, extensions and betterments made subsequent to this order.

It is further ordered, That the Central States Gas Company shall pay into a depreciation fund the moneys provided for depreciation, which fund shall be held separate and handled with proper accounting; that there shall be paid out of this fund all costs of meeting depreciation. Money so accumulating in said fund should be invested, and if invested such investment shall be made in Government or other high-grade listed securities which shall return to said fund not less than 4 per cent interest per annum; or the Central States Gas Company may borrow from this fund, for a period of not to exceed one year, money to cover not more than 75 per cent of the cost of new construction, extensions or additions to the property—items properly chargeable to capital account—but, in such event, the Central States Gas Company shall pledge to such fund its own note or bonds bearing interest at the rate of not less than 4 per cent per annum. Such moneys so borrowed by the Central States Gas Company shall be repaid in full within one year. In handling such fund the Central States Gas Company will be held strictly accountable for its safe investment, proper administration and accounting. Said accounting shall be kept double entry, with the asset account designated as "depreciation fund" and the liability account designated as "depreciation reserve."

It is further ordered, That upon motion by the City of Vincennes any interested party or the Central States Gas Company, either or all of the causes herein set out may be reopened for further consideration.

McCardle, Johnson concur:

Approved Aug. 16, 1920.

Attest:

Carl H. Mote, Secretary.

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TWIN CITIES GAS COMPANY, which operates in Beaumont and Banning, Cal., has bee nauthorized by the State Railroad Commission to execute a mortgage and deed of trust to secure the payment of its recently authorized bond issue of $45,500.

## No Manufacturers' Exhibit at Annual Meeting of Illinois Utility Associations

It has been decided to eliminate the manufacturers' exhibit arranged as a feature of the 1921 joint annual meeting of the Illinois Gas Association, the Illinois State Electric Association and the Illinois Electric Railways Association. The exhibit, which it was intended should include articles in use in the industries represented by these associations, was abandoned after considerable correspondence with the interests concerned. It was considered that a number of existing conditions rendered the holding of it inadvisable.

The 1921 convention, which will be the first joint meeting of these Associations, will be held in Chicago and will extend over three days. No change in the program will be necessitated by the action in dropping the manufacturers' exhibit. The endeavor will be made to direct the discussions to the many problems confronting the utility interests in Illinois; that is, as described by a member of the committee of arrangements, it will be "a business meeting." The total membership of the three associations runs into large figures and the attendance therefore is expected to be exceptional in point of numbers.

Two large exhibits of gas appliances will be made in the next few months. The first of these will be seen at the annual meeting of the American Steel Treater's Society in Philadelphia. The other is arranged for the annual meeting of the American Gas Association in New York next November. The American Steel Treater's Association will occupy five days in its deliberations. This society is an important body comprising in its membership many of the men prominent in the steel industry. The value of gas as a fuel in various kinds of steel fabrication has established itself. Consequently it is indicated there will be much interest in the gas show. The latter it is expected will be the most elaborate display of the efficiency of the fuel in heat treatment processes yet undertaken at any technical society convention.

The exhibit at the convention of the American Gas Association in November will include a wide variety of appliances. Large quarters have been provided for it. This meeting of the association is expected to be a notable one. During the past year special committees of the association

have been at work, each on one or more of the questions which are of interest to the gas industry. And a good deal of benefit has been accomplished.

## Michigan Gas Men to Co-operate with A. G. A. to Secure Car Supply

Schooled to the cost of depleted fuel supply in terms of closed gas plants during the past months, members of the Michigan Gas Association at their convention held in Grand Rapids recently agreed to co-operate with the American Gas Association in intensive activities to insure car supply for the ensuing season.

Committees of the American Gas Association will act with officials of railroads and the Interstate Commerce Commission. The convention closed with election of the following officers: President, J. W. Batten, Detroit; vice-president, James A. Brown, Jackson; secretary-treasurer, A. G. Schroeder, Grand Rapids; executive committee, officers and E. C. Campbell, Benton Harbor, the retiring president.

Addresses were given by George W. Mechem, of Battle Creek, who reviewed the history of the gas industry and spoke on legal aspects of public utilities problems, and by Louis Stotz, of New York, secretary and manager of American Gas Association.

## $1.25 Gas Rate to Continue Temporarily in Washington

The Public Utilities Commission of the District of Columbia has authorized continuance through September and October of the present temporary local gas rate of $1.25 per 1,000 cu. ft., which took effect June 1 last. The commission rejected the request of the local gas companies for a further increase to $1.35.

Answering the claims of the corporations that the price of gas oil and other things have gone up, the commission declared in its decision:

"While the evidence thus shows that the costs of production at this time are in excess of those used as a basis for the rates established by the commission in May, 1920, still it is not unreasonable to assume that the sharp increase of 5 cents per gallon in the cost of oil in the month of June may be followed by an equally sudden decrease. It would therefore seem unwise to fix a rate for the future based on oil at 12¾ cents per gallon.

## Crude Market Quiet, Due to High Prices

There has been little change in the market for coal-tar products during the past weeks. Most of the trading has been of a hand-to-mouth sort and business has been confined to transactions between dealers and brokers and small parcels for the consuming trades. The latter have as yet done very little in the way of buying, and in spite of the fact that some of the mills have reopened there has been only a very limited inquiry. This quiet condition is affecting the producers and resellers of the various materials alike and, while the former have been fairly firm in their price ideas during the entire summer dull period, they are now beginning to wonder whether concessions may in the end not be necessary to stimulate the slackened demand. Second hands have been offering such concessions on their stocks for some time back. Until the present week, however, there has been little tendency on the part of any of the producers to lower prices even fractionally.

Trading in benzol has been relatively small during the period, but stocks are still limited and spot business is still hampered by the shortage of supplies. The makers are quoting 35 cents per gallon for pure and 33 cents per gallon for 90 per cent, but there has been no offer on spot at this level. The 90 per cent grade is offered at 35 cents per gallon spot in drums.

There is little change in the market for creosote oil. Supplies of 25 per cent grade are available at 40 cents per gallon and the lower 15 per cent grades changed hands at 20 cents per gallon.

The market for naphtha is firm on the shortage of the material, and while demand has not been overactive prices are very well maintained at the former levels of 30 cents per gallon.

Holders quote 35 cents per gallon for pure toluol and report a fairly good small-lot inquiry. Makers are offering forward at this level as well, but there is not much doing for shipments further away than a month. Spot supplies are rather short and resellers are finding it difficult to quote on the inquiries which they received from time to time.

The producers report their new prices for xylol maintained without difficulty, and are offering at the former levels of 45 cents per gallon for the pure and 30 cents per gallon for the commercial. Trading has been rather quiet and dull during the past week, and makers have done most of the business transacted.

## President of Brainerd Gas Co. Makes Proposition to the City

A. G. Whitney, president of the Brainerd Gas & Electric Company, Brainerd, Minn., in answer to the action of the city council in proposing an emergency rate for gas, increasing considerably the rates heretofore prevailing, and a sliding scale to be adjusted at quarterly periods, wrote the city clerk declining to accept the terms offered. A few days later he again wrote the city clerk as follows:

"It has been suggested to us that your city might desire to purchase all of the street mains, street and house connections, including governors and meters and make a contract with us to sell them gas on a wholesale basis, the deal to be handled along some such lines as the city is now handling its electrical business.

"While this is a matter that I have never heard of as being done, yet, I see no reason but what it is a feasible one to work out. You have your Water and Light Board and it is better that all three utilities be handled under one head than for it to be divided up.

"If you are desirous of making that kind of a deal, we will enter into an agreement with you to put the street mains and other properties appraised into an appraisal and at the same time make you a wholesale proposition for your gas, you taking it from our holder and tanks located at the plant.

"As a second proposition, we will sell the entire plant to your city.

"As a third proposition, if local capital wishes to take it over, we will sell it to them to reorganize the company, or, as a fourth proposition, you have our proposition as to the terms upon which we are willing to reopen the plant.

"We are not unmindful of the inconvenience that the closing of this plant is causing the Brainerd people and deeply regret the closing of the plant, but inasmuch as it is closed, it would be the height of folly to open it again unless all plans were worked out mutually satisfactory to all parties in interest.

"The company cannot operate an-

other year unless it can get a reasonable return on its investment and while this temporary price asked may seem high, it is lower than one can really expect under the present conditions and in accepting the temporary price offered, we could only accept it with the understanding that the rates be adjusted, raised and lowered, in accordance with the price of the commodities required for the making of the gas, including labor.

"You know that the price of coal has gone up 50 cents; coke went up $1.60 per ton Aug. 10 and the freight rates went up the 26th. All of these matters will have to be taken care of and borne by the consumers and provided for in the rates.

"I would suggest that if anything is done, it be done immediately. If we have to dismantle the plant, we wish to do it at once, and if the plant is ever started again the consumers should have the benefit of it now."

## Personal Notes

BERT H. JARDINE, for two years business manager of the Knoxville Gas Company, Knoxville, Tenn., has been transferred to Bartlesville, Okla., by the headquarters of the corporation in New York City. Mr. Jardine will become business manager of the Empire Gas & Fuel Company of Bartlesville, one of the several plants of the corporation. Mr. Jardine came to Knoxville two years ago from Colorado where he was business manager of the Pueblo Gas & Electric Company. In February, 1920, he was appointed a member of a special committee of the American Gas Association. This committee composed of gas-industry experts was to conduct and organize surveys and investigations as part of the commercial section of the A. G. A. Mr. Jardine has made a large circle of friends in Knoxville. He is a member of the Kiwanis Club. He will be succeeded by L. T. White as business manager of the Knoxville Gas Company.

HOWARD L. OLDS, vice-president of the Twin State Gas & Electric Company, Dover, N. H., and for many years connected with public utility organizations throughout the United States, died the latter part of August after a prolonged illness at his summer home at York Beach. Mr. Olds, who was an influenza sufferer last fall, was in a weakened condition and easily susceptible to complications. His remains were sent to Springfield, Ohio, for burial. His first experience in the utility business was as superintendent of the Lincoln (Ill.) Gas Company and later as manager of the Union Gas & Electric Company of Bloomington. After this he entered construction work in Detroit, Mich., building plants at New Castle, Ind., and Three Rivers, Mich. When later these properties were taken over by the Middle West Utilities Company he became vice-president in charge of the operation of the Interstate Public Service Company. Later, transferred to Chicago, Mr. Olds became engineer of construction and operation for the Middle West Utilities Company, which position he held until he was made vice-president of the Twin State Gas & Electric Company, the New England organization of the Middle West Utilities Company, with headquarters in Boston. Mr. Olds was affable, meeting people easily and his unexpected death will be mourned over many sections of this country, for he had friends in every state. As an executive, he was ever mindful of the proper relations between his company and its customers, and had his entire organization permeated with the idea of constant courtesy to the public.

J. T. LYNN, former president of the National Gas, Electric Light & Power Company, National Gas Association of America, National Commercial Gas Association, etc., is now treasurer of the Gateway, Inc., publishers of *The Gateway Magazine* and other publications touching upon great public questions, including that of municipal ownership. Mr. Lynn has been an advisor of the Gateway for fifteen years upon municipal ownership and other problems touching the gas and electric industry. During all these years its policy has been opposed to municipal ownership and in favor of giving public utilities of all kinds a square deal. This policy will continue, and with Mr. Lynn's association, *The Gateway* will be in a stronger position than ever to be of influence and helpful assistance to interests of the gas industry.

LEE F. SHAW, age seventy, secretary and organizer of the first natural gas companies in Muncie, Ind., died suddenly of apoplexy at his home in Indianapolis, Ind.

CARL B. WYCKOFF has been elected manager of the Emporia (Kan.) Gas Company. Mr. Wyckoff comes from Litchfield, Ill. He is also a director of the company which is capitalized at $175,000.

## Construction Notes

### Western Gas Construction Co. Repairing Holders at Toledo

The Toledo (Ohio) Railways & Light Company will be in much better position to handle its big sendout of gas as soon as it receives from the hands of the contractor the 300,000 cu. ft. holder which is now being repaired.

This work consisted of a complete new crown, together with a new cup and grip, an addition of a number of new courses of side plates of the condenser.

The contract was turned over to the Western Gas Construction Company, of Fort Wayne, Ind., and the same contractors have shipped the materials for similar repairs to a storage holder of 1,500,000 cu. ft. capacity at the same plant.

### Enlarging Jenkintown Gas Works

As a result of the large increase in the demands for gas, the Jenkintown Division of the Philadelphia Suburban Gas & Electric Company have made and have under way several enlargements of their gas plants.

A new 1,000,000-cu.-ft. gas holder has been erected by the Bartlett-Hayward Company, of Baltimore, and was placed in operation at the company's plant at Oreland, Pa. At the same place the company has erected a steam power plant and are installing a steam-driven gas compressor for use in its high-pressure distribution system.

At the Jenkintown works a new 8 ft. 6 in. U. G. I. carburetted water-gas generator was recently installed, also a gas exhauster of 125,000 cu. ft. per hour, for pumping the gas between the Jenkintown and Oreland works. A new 8 ft. 6 in. condenser and set of purifying boxes are also be erected.